

weight is a drawing of a view screen that will be displayed in the personal computer in user subsystem 10, user station 170, and entry nodes 102, 104, 106, 108 and 110:

FIG. 4 is a flow chart of the process for determining the cost of the other materials used to complete the container; and

FIG. 5 is a flow chart showing how the post or carrier detects weight/rating/errors that are identified during normal article/mail piece acceptance processing.

Page 8, lines 14 and 19:

Subsystem 10 is shown as a node which includes a personal computer and printer for processing data and running certain software applications, a monitor for providing a human interface with the personal computer so as to view screens established by the application, and a keyboard for data entry. A modem link is implied that will allow access to interface 12. Additional peripherals that are anticipated include a scanner for scanning barcodes and similar data, ~~as well as a weighing scale for inputting weight should the system database 54 not contain a relevant weight for the article to be shipped.~~

Page 8, line 29 and page 9, line 3:

Database 54 is optionally linked to a weight and rate rating server 52 to form subsystem 50. Database 54 comprises all universal process codes (UPC) database 54A; item weight, volume and density databases 54B; and all carrier rates database 54C. Subsystem 50 is a remote server which can determine a rate for shipping a parcel in accordance with parameters established in the shipping application hosted by subsystem 10 and a weight returned from database 54. Database 54 can be updated by

data entry from subsystem 10 or from periodic and/or random updates transmitted by postal or carrier server 28 and corrected or refined by database correction factors 32.

Page 9, lines 9 and 10:

There are a number of commercially available databases that can serve as input to the trainable database 54, thus reducing training time and expense. Those databases representing portions of the Universal Product Code (UPC) and the European Article Numbering (EAN) systems are the most advantageous because they contain product descriptions and characteristics but not the weight of the item. Currently, portions of these systems are commercially available, while a complete compilation is not available. ~~The trainable database contemplated herein would provide the quickest road to actually building a database that anticipates the entire UPC product base.~~

Page 10, line 12:

The first overhead digit of a UPC type A symbol is a number related to the type of product being described as follows:

- 0 = normal UPC code
- 1 = reserved
- 2 = products sold by weight
- 3 = health related products
- 4 = UPC code used without limits
- 5 = coupons
- 6 = normal UPC code
- 7 = normal UPC code
- 8 = reserved
- 9 = reserved

Page 10, line 32 to page 11, line 3:

Returning to FIG. 1A, subsystem **10** is shown as also linked to the postal or carrier stream through letter or parcel presorted metered permit, stamp, or PC-based meters/stamp payment and mailer finishing process activities **22** which include the physical mailing of a letter or the shipping of a parcel. The entry of a letter or a parcel into the postal or carrier stream allows the carrier to apply an acceptance and delivery process **24** which produces samples of weight data **26** which are input to carrier server **28**. In turn, the carrier server **28** applies the weight database correction factors ~~teusing~~ the collected weight data so that ~~the weight corrections~~ can be input to the trainable database **54** through interface **34**, Internet link **36** and interface **38**.

Page 12, line 1:

A third embodiment of the present invention is shown in **FIG. 1C**. FIG. 1C is a block diagram of a data processing node, which is co-located with the database, and wherein the data processing node interfaces with a carrier server ~~in~~is performing rating routines prior to seeking carrier acceptance.

Page 13, lines 22, 23:

Turning to **FIG. 2A**, there is shown the method of the preferred embodiment of the present invention. The method begins at step 199 when a user enters data into screen 300 (FIG. 5). Then, in step 200, ~~with the initiation of a shipping or carrier management application~~ begins (hereinafter referred to as a shipping application) in a data processing system. The application can be configured to access carrier data

representative of one carrier, or in the alternative, can be configured to select from among two or more carriers as based upon selection criteria selected by a system user. For example, such criteria can include: cost; desired date of delivery; available services; or, shipping mode.

Page 14, first, second and third paragraphs:

From step 200, the method advances to step ~~202~~204 where ~~data relative to the parcel to be shipped is entered into a weight determination routine of the shipping application. The data can be entered by a system operator utilizing a keyboard, by scanning a barcode related to the contents of the parcel, or by other similar data entry methods. When the data has been entered, the method advances to the query at step 204, which asks if a weight has been entered for the parcel~~article~~. If the response to the query is "YES," then the method advances to step 214 where the article data is applied directly to a rating routine for determining the rate to be charged for shipping the parcel article via the selected carrier. The method advances from step 214 ~~along a dual path to step 216 where the total rate is returned for the container, and essentially simultaneously along path A2 to re-enter the method flow at step 252 as is shown in FIG. 2B.~~ At step ~~252,~~ parcel weight is returned for use by the rating routine. If, however, the response to the query at step 204 is "NO," then the method advances to step 201 to read the next data field from data fields 305, 307 and 309. Then the program goes to the query at step 206.~~

The query at step 206 asks if a UPC bar code is available for the parcel to be shipped. If the response to the query is "YES," then the method advances to step 212 where the UPC barcode value is compared to the UPC database to obtain an article

postal or carrier weight, and the item volume and density, if found. Now the program goes to step 205 to buffer the current article weight with the other weight parameters and the current total weight. Then the program goes to decision block 203 to check if the total weight has been determined. If step 203 has not determined the total weight, the program goes to step 201 to read the next data field. If step 203 determines the total weight, the program goes to step 213 to determine if other parameters, i.e., density and volume, are present in the record. If step 213 determines no new parameters are present, the program goes to step 214. If step 213 determines that new parameters are present, the program goes to step 350 (FIG. 4). Once the weight is obtained, the method advances directly to step 214. However, if the response to the query at step 206 is "NO," then the method advances to the query at step 208.

At step 208, the method queries at to whether the parcelarticle can be identified by its ~~characteristics~~ a description of the article. If the response to the query is "YES," then the method advances to step 210 where the characteristics are input to the system and the corresponding UPC data and the parcelcontainer weight are determined. From step 210, the method flow advances to step ~~214~~205. If the response to the query at step 208 is "NO," then the method advances along path A1 to step 230 as is shown in FIG. 2B.

Page 15, line 4:

Returning to step 214, the method applies the article data, including the weight obtained at step 252, to a rating engine to determine the rate to be charged for shipping the parcel via the selected carrier. The rate is returned at step 216 and applied to the article at step 218 by indicating the rate on a corresponding carrier manifest, producing

a label (which generally lists the addressee as well) corresponding to the rate, or both. In step 219, the rate is applied for this container. The parcel container is then prepared for shipping at step **220** and the routine for the parcel is concluded at step **222**.

Page 15, third paragraph:

Returning to step **230**, if the response to the query is "NO," then the method advances to the query at step **240**. At step **240**, the system queries as to whether or not a product description is available. If the response to the query is "NO," then the method advances to step 245. Step 245 requests that the user enter data that describes the product. Then the program advances to the query at step 246. If, however, the response to the query at step **240** is "YES," then the program goes to step 242 to compare elements of the product comprising the parcel description with elements in UPC database fields. ~~are weighted utilizing any of a number of known weighting techniques. The weighted elements of the product are compared with elements of the database field at step 242 before advancing~~ Now the program advances to the query at step **244**.

Page 16, line 1:

Returning to step **236**, if the response to the query as to whether or not the product number is available is "NO," then the method advances to step **242** where the ~~weighted elements of the product are compared with elements~~ in the UPC of the database fields ~~at before advancing to the query at step 244.~~ If the response to the query at step **236** is "YES," then the system conducts a search of the database by the manufacturer's product number before advancing to the query at step **244**.

Page 16, lines 8-10:

At step **244**, the system queries as to whether or not a match has been determined for the comparisons made of the manufacturer's name, product number, or description. If the response to the query is "NO," then the ~~method~~program advances to step 245 where the user is requested to enter the data. Then the program goes to the query at step 246. However, if the response to the query at step **244** is "YES," then the method advances directly to step **252** and returns a weight to the cost/rating routine for use at step **214**.

Page 16, second, third and fourth paragraphs:

Turning to step **246**, the method queries as to whether or not the system user can enter (e.g., via keyboard entry or scanner entry) the weight directly to the routine. If the response to the query is "YES," then the data is entered into the entry fields of the routine at step **250**; otherwise, if the response to the query is "NO," then the program goes to step 247. Step 247 sends to the user's display the following message: "Weight is not available. Take finished package to post/carrier for cost/rating". Then this routine goes to step 249 and then to step 222 to end. ~~system user can weigh the article utilizing a weighing scale at step 248. The weight is then read, at step 250, from the scale and entered either automatically or manually into the entry fields. From step 250, the method advances to step 250252 where the weight is returned to the application in step 216 (FIG. 2A) for use in determining the cost/rate.~~

~~The weights database utilizes the weight entered at step 248, together with the product description or product number to establish a new weights record which is entered into the weights database for subsequent comparisons; thus, the database is~~

~~trainable and potentially increases its ability to reduce the need for future weighing steps.~~

FIG. 3 is a drawing of a view screen that will be displayed in the personal computer in user subsystem 10, user station 170, entry nodes 102, 104, 106, 108, and 110. The data entry screen 300 is made up of seven subscreens indicated as 301, 303, 305, 307, 309, 311, and 313. Each subscreen in turn contains one or more required data elements that the user must enter to define the article/mail piece for cost/rating, or to provide the needed data to allow computation of the container and its contents weight.

The first sub data entry screen 301 is in turn subdivided into four user data entry fields. They are identified as A, B, C, and D in 301. Each field allows the user to identify the chosen carrier (A), the level of delivery service requested (B), any other requested services (C), and finally the destination information (D) that enables delivery.

The next data entry subscreen 303 provides a field (E) where the user could enter the actual final accurate shipping weight when it is already known to them. These circumstances are likely found in a manufacturer parcel-shipping site where standard boxes, packing and contents are combined in known arrangements.

The next three subscreens (305, 307 and 309) provide the numeric and text information that enables the present invention to operate.

Subscreen 305 contains data entry lines labeled F1, F2 and more. Each line has fields for both the UPC code assigned to the contents item, as printed on its label, or found in its description. The "F" lines are filled in with either the UPC or a description until all the items are accounted for.

The next subscreen 307 deals with the mail piece container. At least one "G" line must be selected, and either the UPC number entered or the description.

The next subscreen 309 deals with the packing and tape used to form the mail piece/container. At least one "H" line must be selected, and both the UPC number entered and a description of what was consumed.

Subscreens 311 and 313 are not for data entry. These subscreens inform the user about the status of the "mail-ability" in ("I") of the mail piece, and the current cost in (J).

FIG. 4 is a flow chart of the process for determining the cost of the other materials used to complete the container. The program begins in step 350 when step 213 (FIG. 2A) detects other parameters.

Step 350 reads the input records from subscreens 310-309 (FIG. 3). Then the program goes to decision step 352. Step 352 determines whether or not other parameter data entries are present in the data record. If other parameters are not present, the program goes to step 214 (FIG. 2A). If other parameters are present in step 352, the program goes to step 354 to read or compute values for the current postal weight; container volume; sum of the contents items and packing material density. In step 356, the program subtracts all contents volumes found from the container volume. Then, in step 358 the program multiplies the computed volume difference by the given packing material density. In step 360, the program adds the computed postal weight for the packing used to the current postal weight. In step 362, the file is returned to step 214 (FIG. 2A)

FIG. 5 is a flow chart showing how the post or carrier detects weight/rating/cost/errors that are identified during normal article/mail piece acceptance processing. Prior to initiation of the corrective process, described in FIG. 5, a temporary article weight error file 371 is produced by a sortation process 370. Sortation process 370 out sorts all verified mail piece records that exceed post/carrier established acceptance value for a user-produced weighing error. The user-produced weighing error is usually 3-5% of the total weight.

The corrective processing starts at step 373 when the first record stored in step 371 is read in. Next, at step 375, the mail piece unique number that the system issued during the user cost/rating process, is read in from subscreen 301 data field (FIG. 3) and is retrieved from the archived user record 300.

Next the process moves to step 377 to establish if a user established "postal weight" was used. If this is the case (yes), the process moves to step 379 where it computes the value of the error, and then notifies the user and bills the user's account.

Next, at step 380, the process checks to see if there are any more records to process in step 371. If there are none to process, it moves to step 381 to clear the processed records in step 371 and then ends.

If there are additional files to process in step 371, the process gets the next record at step 392 and moves back to step 373. Returning to step 377, if a user supplied postal weight was not entered by the user, the process moves to step 383 where it verifies that the weights entered by the user interactive process matches the current UPC-based weights. If a mismatch is found, the process moves to step 379 where it follows the flow already discussed. If all the component weights are found to

match those currently in the UPC database 54b (FIG. 1A), the process moves to step 385 to locate other mail pieces that contain the same item.

The process next moves to query the item manufacture's database over the Internet to verify the weight. It then moves to step 389 to produce a correction if needed. Then the process goes to step 390 to add the correction to a Weight Corrections database update file 391. Then the process moves to step 380. Then the system database 32 (FIG. 1A) is updated from time to time as needed using step 391.

Page 17 through page 18, first paragraph: delete in their entirety

~~The method flow begins with a comparison input initiated at step 240. The input initiates, at step 260, a comparison routine. The routine begins at step 262 where the product description is parsed into matching fields before advancing to step 264 where each of the fields is weighted in accordance with its ability to define or direct a search to a product or article in terms of its actual weight. From step 264, the method advances to step 266 where an address is assigned to each field and a fixed value alphanumeric is added that corresponds to a product description in the weights database. At step 268, each of the alphanumerics is matched against the most appropriate table (based on the alphanumerics) in the weights database to determine whether a match is to be returned.~~

~~The method queries at step 270 as to whether or not a match is returned. If the response to the query is "YES," then the weight of that alphanumeric is added to a weights tally field. If the response to the query is "NO," then the method advances to the query at step 274 which asks if there are any more matches. If the response to the query is "YES," then the method advances to step 276 where the method goes to the next alphanumeric to be matched. The method then goes to the next alphanumeric and~~

re enters the flow at step 270. However, if the response to the query at step 274 is "NO," then the method advances to step 278 and determines whether or not the total weight recorded in the weight tally field is greater than, or equal to, a pre-determined threshold weight.

If the weight in the weight tally field is not greater than or equal to the threshold weight, then the method advances to step 280, determines that no match has been found at step 280 and then returns at step 282 to step 244 as is shown in FIG. 2B. If it is determined that the weight in the weight tally field is greater than or equal to the threshold weight, then the method will advance from step 278 to step 284. The method determines at step 284 that a match has been determined and then returns at step 286 to step 252 as is shown in FIG. 2B.

Page 18, first paragraph:

While certain embodiments have been described above in terms of the system within which the subject method may be employed, the invention is not limited to such a context. The system and its embodiments shown in FIG. 1A, FIG. 1B, FIG. 1C, and FIG. 1D are examples of configurations for the invention, and the system elements are intended merely to exemplify the types of peripherals and combinations that are contemplated by the invention.

Substitute new FIG. 1A for old FIG. 1A;

Substitute new FIG. 2A for old FIG. 2A;

Substitute new FIG. 3 for old FIG. 3; and

Add new FIG. 4 and FIG. 5.